

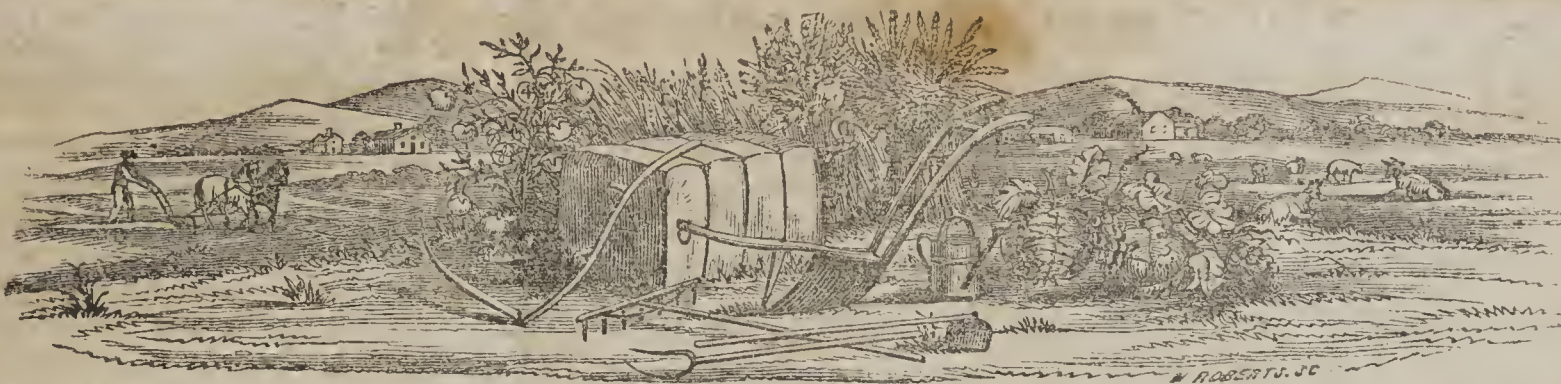
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# FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

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## Address.

BY WILLIAM S. KING, MANTON, R. I.

(Continued from page 82.)

But to come to the second prejudice of farmers. As a class they say that *especial* education is not necessary for them;—an education, adapted to their occupation, as farmers, to teach them more than they now know, of their own business; thereby enabling them to improve upon the doings of their predecessors, as other classes of men have done;—an agricultural education, looking directly to their intended business for life.

The shipwright, before he is able to launch upon the deep, those models of marine architecture, which, whether propelled by sails or steam, have alike carried our starry flag in triumph on the sea, has, in his youth, been apprenticed to a finished master of his craft; he has, so to speak, studied the alphabet of his trade under a competent teacher; and has pour-

ed dreary hours, long over models, and lines, and rules laid down in books. No one of my hearers supposes, that the improvements made in ship building whereby, even before the introduction of steam on the ocean, we had already diminished the distance to the English coast from our own, by full one-half in twenty years, are the result of accident or of fortunate guess work. No! constant study alone enabled the builders to improve upon every model that was launched; until now the work of our ship yards is the admiration of the world. It may be here added as an argument for education, that the conceded superiority of our shipwrights even over those of our mother country,—noble old England,—is universally and unhesitatingly attributed to the fact, that our ship builders are more generally men of enquiring minds and of education in their business.

The mason, who rears your house-walls, and spans the swift stream with the striding arch, has had his years of apprenticeship and education. Much of his knowledge must come from books, but he does not therefore despise it.

The painter, who sketches with magic pencil, the glowing landscape, or "the human form divine," has prepared himself to execute those masterly touches, by previous care and study.

The lawyer is educated with a steady view to his future profession.

The physician acquires from books, and from observation, the knowledge of the healing art, that renders him a minister of mercy in our dwellings.

The divine, whose errand is to warn the sinner to "flee from the wrath to come," and to comfort the parting soul, about to wing its way on a dim and untried journey, learns to understand and to

expound the will of His Heavenly Master, by continued perusal of the writings of the good and the learned.

All professions, all trades, all other occupations of men testify to the advantages of especial education; but the farmer is yet unconvinced. Men are not born with a natural knowledge of law, or of mechanics; so that after a little observation of the practice, they can take high rank in their respective occupations; but the farmer claims that he has, from youth, all the knowledge of his business that is necessary; and a few years of practice completes the education. If we allow that we merely desire to equal those who have preceded us, it may be that we can keep close to them by walking in their footsteps; but the tendency of the age is to improvement;—the design of our Maker appears to be, that each generation of man should excel, in knowledge, its predecessor;—but it is idle to expect improvement where all are content to be imitators.

The object of an agricultural education is, undoubtedly, to make practical farmers; and here, at the outset, we stumble over a prejudice, as to what constitutes a practical farmer.

My purpose here, as all know, is not, cannot be, to ridicule my hearers. I have too high a respect for those who call me hither—for those who now so kindly listen to me—for the great subject we are discussing—for my own character—to attempt to throw ridicule upon any I address. But you yourselves shall be judges of what yourselves declare to be a practical farmer.

To decide whether a stranger, who calls himself a farmer, has a right to the title, is not your first glance cast upon his clothes to see if they be farmer-like; and your next upon his hands, to find if they are



hardened by manual labor. If a man in a black broadcloth dress coat, having hands fair to look upon, and uncalloused by contact with the plow handle, presents himself to your notice as a practical farmer, your politeness may prevent you from laughing in his face, at the obvious absurdity of the claim; but you laugh none the less, in your sleeve, as you set him down for a *fancy-farmer*.

Now, sirs, what right have you to deride this man's pretensions; and off-hand to pronounce that he is not a farmer, as accomplished as yourself, or even able to teach you what you have not yet learned, in your own occupation? It is because you consider that a practical farmer, is he, and he only, who labors with his hands; this would make them tough; and the necessities of his occupation would compel him to wear more homely apparel. Is it true, that this it is, and this alone,—*labor with his own hands*—hard work—that makes the practical man? Then is your hired help, who follows the plow, day in and day out; who shivers in the wintry stable, and sweats at the harvest, many an hour when you are occupied about other affairs, a better practical farmer than you; for he often works more. Then is the ox that he drives the most practical, for he wears rougher and tougher garments, has harder hands, and does more hard work than either of you.

Farmers! you greatly mistake the meaning of the word *practical*. Stand with me on the quarter deck of a ship, as she strips for a battle with the storm.—The bullying winds roar. The threatening sky descends and contracts. The angry waves lift up their heads. The tempest-tost bark, now piercing the sky with her trembling masts, now driving headlong into the yawning trough of the sea, is freighted with human souls. Do they not not now, if ever, need the services of a *practical* sailor to conduct them safely through the envioning perils? Who then is he, to whom all eyes instinctively turn, as, under God, their only hope? Is it that stalwart son of the sea, whose strength is the boast of the ship's company—who can "swim farther, dive deeper, and come up drier, than any man in the crowd"—who can "hand, and reef, and steer"—who can mount the rigging with a squirrel's agility and tie all the fast-knots, and sliding knots, that are the sailor's pride, and splice, or "lay a cable with the next man"—is this he, who is selected as the best practical sailor, to command the craft in her hour of danger?

Far from it, friends. The practical man for the occasion, is yon dapper little fellow, with soft, white palms, sporting, mayhap, a seal ring, and dressed as if inclined to give to tar and pitch, and all other defiling substances, a wide berth. He it is, this man, who directs the labors of others—he it is, who is the practical sailor.

If then, in the hour of danger, when death rages for his prey, and the yawning sea shows the ready grave, men acknowledge the might of mind, why is it, that farmers will persist in undervaluing it? and will set up sinews before it?

As we cast our eyes over the country, we see it traversed in every direction by roads of iron; mighty hills are demolished, wide valleys are filled up, and swift streams are spanned by viaducts.—The neigh of the steam horse wakes the echoes far and near, as with eyes of fire and with breath of pitchy smoke, he rushes along his iron road with the roar and strength of an avalanche. Now if there are things that practical men can surely do, the piling of stones and dirt into a long narrow heap, and the digging down of banks of earth, and the hammering of iron and the putting together of bolts and nuts and plates, must be among them.—But we do not give to the thousands of brawny workmen, who ply pick and spade, the honor of building the railroad; nor do we credit to the faithful smith who, obedient to directions, has wrought out a rod, and again hammered out a plate, the performances of the finished locomotive.

By and by,—as all now admit that a man may be a finished practical sailor, who does not defile his palms with pitch, oakum, or ratlin-stuff; and as one may claim to be a practical builder, rearing huge structures of granite, bridging rivers, and moving mountains, who does not harden his hands by the use of the spade, pick, or crow; so will we acknowledge that a man may be a practical farmer, competent to the management of acres, who does not toil all the day long at the plow-tail. To farm well, as to direct any other operation well, the foreman, whether he be master or man, must thoroughly understand how things ought to be done; and then the proverb will be found to hold true of farming, as of most things else,—“the eye of the master is better than his hands.”

(To be continued.)

The population of Paris is 1,000,000.

For the Farmer and Planter.

#### Review of the May Number.

MESRRS. EDITORS:—Allow us, “*imprimus*,” to congratulate you upon the return of an old friend with whom we have broken a lance, occasionally, in your columns. In his present article, we “acknowledge the corn,” and assure him that we *sweep* every thing after the first plowing, as a *general* rule. It sometimes happens though, that a field may be planted in beautiful condition and two or three dashing rains may so “run it together,” that close and deep plowing *only* can make corn. We are plowing a field now, that was sub-soiled with a Broyels last winter, and afterwards was so “run together” by rains, that we were under the necessity of plowing up the corn and reploting and replanting the whole field. Our soil is trap; the sub-soil, as usual in trap soils, a tenacious clay, which holds water like a jug. It is not strange then, if we sometimes find ourselves going back to the tool house for an old scooter. But this does not prove the incorrectness of our theory, but brings to us forcibly the old maxim, “*exceptio protrat regulum*.”

“*Interesting Experiment*.” P. M. E. has given us a very interesting detail of facts much wanted, for there is almost as great danger just now of people running guano mad as rapping mad. We fear that there is a good deal of the volatile about both of them.

In the experiment of P. M. E. the only question to be asked is, which, taking all things into account, was the cheaper manure. To our mind it is but little short of sheer nonsense for a farmer to be running up an account against himself for so many loads of stable manure, so much for carting it out, spreading it, and the like. Every planter is obliged to keep, for the purposes of cultivating a crop, as well as for domestic comfort and economy, certain animals. Their well being require they should be well fed and well littered.—there are times on all farms when the negroes cannot be employed in any way more profitably than in making manure; there are times when little else can be done better than hauling it out and spreading it. Any systematic farmer can make twenty loads per hand without trenching a day upon his farm work. Those who have always big “clearings” on hand, never have any time to look after old land improvement. We do not question the virtue of guano; we are willing to admit that it stands unrivalled as a fertilizer; still we have not the strong faith in its wonderful workings that some of our friends have.—



Whenever we hear a planter arguing that it is cheaper for him to grow cotton and buy his own meat and negro clothing, than to plant less and make them at home, we think that he is in a fair way to kill the goose to get the golden egg. If, as the guanoites declare, it be cheaper to pay \$60 per ton for guano than to haul out stable manure given to us for nothing, it is certain that very little manure will be made, very little stock kept, very little thought about rotation or rest, or in fact about anything but more land to the hand and labor saving implements to enable us to extend the area of cotton culture. But this is not the worst of it;—we have brot' ourselves to the miserable condition we now occupy by pursuing a one idea system. It is time we were waking up.—What are our soils mostly deficient in?—Organic matter; the subsoil, if it ever did contain the inorganic elements required, contains them still, in proportions ample enough for improvement; you have but to deepen your soil and add organic matter, to find your labors blessed with abundant harvests. The repeated application of guano will soon dispose of the little organic matter we have in our soils, and our case will be what?

We do not claim to be "Sir Oracle," or to know much more than other folks, but if our soils ever become regenerated, it will be by more rest, rotation, green crops, more stock, more manure, and thorough deep tillage. When we arrive at that point it will do very well to talk of fancy manures on cotton plantations.

Mr. Ashby speaks of 8 acres of sedge land yielding 18 bushels per acre of wheat after plowing in 140 lbs. guano per acre.—Maj. Williams of Narcoochee Valley, made an average of 80 bushels per acre, of corn, upon a 20 acre worn out sedge field last year, after plowing in the manure made from 75 head of cattle, fed upon the farm, which you may say cost nothing but the hauling it out, for the increased value of the cattle more than paid for for food and trouble. Quere—Would it have been cheaper for Maj. W. to have bought guano?

"Hog Raising."—About the best hogs we have ever seen in our travels are about Old Pendleton; the breed had a strong cross of the corn crib, we were told. It is an important cross, but a dangerous one in a cotton country. Our hogs are as ignorant of a hoo-ee as of of a holiday: peas, barley, and white clover, the harvest gleanings, then pea pasture, and two weeks on corn, make our hog rotation.

"Smut."—H. has put another spoke in our wheel, and by the way a neighbor told us yesterday that he lacked just about a peck of seed last year of having enough to finish his field, and sowed it without soaking; there was smut in it—the first smut he ever had. We have the advantage of you, Messrs. Editors, we have no theory—we are trying to get at the truth, and want to be convinced.

"Grasses."—Dr. Crook has given us an interesting article—more if you please sir. "To make more manure we must have animals, and to raise animals, we must have grass," and he might have added—to have grass it was only necessary to try as hard as we do to make cotton.

When the Southern States become intersected by railways, there will be no limit to the demand for "fresh meat."—Even now cattle are driven from the mountains of Georgia and North Carolina to Baltimore. The mountain region of South Carolina, North Carolina and Georgia is destined to become the great producer of fruit and flesh for much of the world.—The will is all that is wanted, for it is a business that can be carried on with very little capital. Now is the time to begin—plant orchards, look about for choice native varieties of the apple and peach—select thrifty stocks of hogs and cattle to begin with, and every year improve them by better feeding and careful selection—construct shelters of some sort—a brush fence is better than nothing—try herds-grass, timothy, blue-grass, mosquit, and neglect not among new things, to try all our native even.

BROOMSEDGE.

Big Branch, May, 1853.

#### Manures---No. 14.

BY PROFESSOR J. J. MAPES.

*Crushed Bones.*—Perhaps no discovery has been more important to agriculturists than that of the use of bones as a fertilizer, and if we except the use of sub-soil plows and under drains, the application of bones as above stated has done more to replace necessary constituents of plants in soil than any substance previously known.

Cuthbert W. Johnson says, "The introduction of bones as a fertilizer is perhaps one of the most important and successful agricultural efforts of modern days, and has been certainly one great means of sufficiently increasing the national production of corn to keep pace with an annually enlarging population. It required, however, like all other agricultural improvements, much perseverance and unshaken energy in the promoters of this manure, to induce its general adoption, many a long

and stubborn argument had to be answered; many hundred loads of the bone refuse of Sheffield and Birmingham had to be given away before the cautious and suspicious Yorkshire farmers could be generally persuaded of the fallacy of the assertion that "there is no good in bones."—To this tardy conviction the erroneous mode of employing them mainly contributed, for they were first used without even roughly breaking them, and in consequence, they decomposed so very slowly in the soil that the farmer's patience was naturally exhausted; he sought in vain for immediate and striking results.

It is said in the Lancaster Agricultural Society's report, upon the use of bones, "Col St. Leger, then residing at Warmsworth, was the first person known to have used them, and his introduction of them was in 1775; the early progress does not seem to have been rapid, from the practice of laying them in almost unbroken, and in very large quantities."

This difficulty was in part done away with by the introduction of machinery for the crushing bones, and when finely pulverized they putrefy, and are consequently rendered soluble in a much shorter space of time.

Some idea may be formed of the vast increase in the use of bones as a manure in England, from the following table of the value of bones imported into that small country—and when we recollect that it contains but few more acres than the state of New York, our farmers will the more readily understand the estimation in which this fertilizer was held, even as far back as 1837:—

In 1821 the imports amounted to....	\$79,490
" 1824 " " " " " " " " " " " "	219,700
" 1827 " " " " " " " " " " " "	389,780
" 1830 " " " " " " " " " " " "	291,115
" 1833 " " " " " " " " " " " "	489,500
" 1835 " " " " " " " " " " " "	635,655
" 1836 " " " " " " " " " " " "	859,030
" 1837 " " " " " " " " " " " "	1,273,000

The port of Hull alone received 8,000 tons of bones in 1815, 17,500 tons in 1833, and 25,700 tons in 1835.

These quantities were of course in addition to those produced at home, all of which are consumed by agriculturists.—Indeed, without the use of bones at this time England could not sustain herself, as the turnip crop is mainly dependent on this fertilizer, and on this crop are fed the sheep which furnish the raw material for the large woolen factories of England, the export value of the products of which, are among the largest of her manufactures.—Since 1837, the amount of bones imported into England have steadily increased un-



til the amount now reaches \$5,000,000 per annum.

Notwithstanding the high value of this fertilizer for the standard crops of the United States, still it is only within a few years that our farmers have used them with energy, and still their use in many parts of the country is comparatively unknown. A maximum quantity of Indian corn, wheat, oats, turnips, and many other crops, cannot be raised without the use of bones or of phosphate of lime, (their chief constituent) in some form. The farmers of Monmouth county, New Jersey, and some other districts produce similar results by the use of green sand and other marls which contain large portions of phosphate of lime.

The cause of the action of bones as manure is easily understood, and this rationale may be classed among the simplest the chemist can offer to the farmer.—There is no part of a bone which is not direct food for plants—thus the gelatine, (glue) of bones is animal matter, containing carbon, hydrogen and oxygen, and is denominated by some writers as cartilage—while the earthy or more solid parts of bones are composed of phosphate of lime, fluoate of lime, carbonate of lime, phosphate of magnesia and soda, with a trace of common salt.

We shall divide the further treatment of this subject as follows—

1. The composition of bones.
2. The constituents of bones found in vegetable substances.
3. The effects and modes of applying bones, and the best modes for their preparation.

*The Chemical Composition of Bones.*—Bones do not vary much in their composition; they all contain, in common, gelatine, (glue, cartilage,) with phosphate of lime and small portions of other matters which are variable. Berzelius has given us an analysis of the bones of the ox;—he found by calcination they lost 38 per cent. Bones calcined in an open vessel would necessarily lose, by the effects of heat, all the gelatine and other matters which could be converted into carbon and then into carbonic acid, and hence those parts only would remain which were of earthy origin. One hundred parts of these bones before calcination, contain, according to the analysis of Berzelius—

Cartilage.....	33.30	parts.
Phosphate of lime.....	55.35	"
Fluato of lime (Derbyshire spur).....	3.00	"
Carbonate of lime (chalk).....	3.85	"
Phosphate of magnesia.....	2.05	"
Soda, with a little common salt..	2.45	"

100.00

Bones of the same kinds are often found to vary in composition, dependent principally upon the age of the animal, exposure of the bones to atmospheric influences for a long time, &c.

Fourcroy and Vauquelin found some ox bones to be composed of

Gelatine.....	51.0
Phosphate of lime.....	37.7
Carbonate of lime.....	10.0
Phosphate of magnesia.....	1.3
	100.00

Bones, after being burned in a closed vessel, as for the use of sugar refineries, we have found by careful analysis to be composed of

Phosphate of lime.....	83.9
Carbon.....	14.2
Lime.....	1.9

The usual treatment given to fresh bones in large cities is to boil them in open vessels, and thus separate the fatty matter which rises to the surface of the water—the straight pieces, thigh bones, &c., are then selected for use by manufacturers for tooth brush handles, buttons, &c., when all other parts not enameled are burned in close vessels for the use of sugar refiners, while the enameled portions, teeth, joints, &c., are roughly ground for farmers' use.—*Working Farmer.*

*For the Farmer and Planter.*

#### Light Tillage.

Truth lies between the two extremes.

We are not "Broomsedge" or "the World," what we claim is alone our individuality, and we hope our friend will pardon us for thus daring to take up one finger of the glove so boldly thrown down to "the World" and "Broomsedge," whom we suppose from our friend's language, belongs to the moon or some other place somewhere.

Truly "the ruinous results of repeated deep plowings," is a revelation to us. Fond as we are of anything new, all our thinkings, actings, and theories were thrown aback by the bold denunciations of the plow in corn culture. Our wonder got the better of us, and we came near putting ashes all over us by way of punishment for the injury we had just inflicted on our languishing corn. Our motto has been, up to the first of June, drive in the plow-share close and deep; we stood aghast—almost blinded—by the flood of new light so boldly flashed around us; we threw down the paper, exhausted by the intensity of pain for wrong doing, leaned back in the old arm chair and fell asleep.

Thus restored by balmy sleep, we nib-

bed our quill and at it we went, to advocate the World, Broomsedge, and every body else. Should our friend be right, then all the World and Broomsedge are wrong. Our school master would say this is good logic. By the way of aiding our friend in his tilt against plow culture of corn, we would point him to the most wonderful discovery of this wonderful nineteenth century, clearly pointed out at every meeting of the friends of progress, which is, that "whatever is new is right, and whatever the world has believed for a long time is certainly wrong, and that all reform is most indubitably progress;" consequently deep culture of corn having had "the sanction of the whole American family," for a long time is the more certainly false.

Wonderful things are brought out in this age of progress, and we of the 18th century are most wofully in the back ground, and must still recede unless we can whip up.

"Let us have light, then,  
'Tis all old ones ask.

We had supposed that deep culture was rather of modern practice in this country; we were among those who have felt that the skin culture has done its share of mischief, and we have endeavored to remedy, or rather prevent, further injury by a system of deeper plowing, both in the preparation and in the early culture of corn.

After the second plowing of corn, we come into rank with our friend, and shall practice surface culture. This does appear to us to be in harmony with the nature of the corn plant, rationally and physiologically. We are at present in the midst of a season calculated to test deep and skin culture. We prepared our land as deep as we could command power to draw the sub-soil. The heavy rains of early spring had packed it as hard as a turnpike road; our care and labor has been exerted to again open the soil, and twice have we run the subsoil as deep as we could get it. If the theory of our friend is right, we have worked hard to do mischief. We admit the first reason of our friend to sustain his proposition.—The second reason we do not exactly understand; it is new to us that the roots of corn are "tubers." We admit the last that every living root contributes its share of support to the plant; at the same time we doubt the living conditions of a tythe of the roots seen traversing the soil, and again, we are not sure but root cutting to a certain degree is of vast importance in



all improved cultivated plants. We should require some strong arguments to drive from the position of the hundreds of grey headed farmers who hold that breaking the roots gives renewed vigor and power of development to the corn plant.—Cultivation has certainly modified many plants. We must defend Broomsedge and the World and ourself against the new doctrine of the corn plant being “truly an interesting specimen of *animated* nature.” However the World and every body else have been in error in plow culture, we cannot part with corn from the vegetable kingdom; the world has long determined to which kingdom of organic life corn belongs. It may be true that the modes of existence of plants may in some degree be analagous to animals; remotely all life, animal or vegetable, is in relationship, but the Creator instituted from the beginning a *specialization*. The chemistry of life plays its part in both kingdoms, under certain and special regulations; animal life may be a unit—all life may be a unit. of this we shall say no more. Much as we admire, and little as we understand the economy of nature, in the fitness of things harmonious adaptations and aptitudes, we feel certain that man has accomplished something; he has created nothing, yet he has given size and color to many fruits and culinary plants; by terra culture and increased nutrition the trifling Brassica is grown into a cabbage. Let a plant of this genus be left uncultivated, and see how soon it would recede to its original type. We speak not authoritatively, but we lean to the opinion that cultivation cutting roots and all this kind of thing keeps corn from defection, rather than being any cause of it. We cannot for the life of us separate the sweep from plows in general. What we understand by a sweep, is a broad plow which may be run as deep as a common shovel. In the culture of corn, three inches is pretty deep plowing in this country where the soil has scarcely that average depth, and we are of the opinion that the point of the sweep in light lands often penetrates to that depth. We feel satisfied that after two thorough plowings of corn that the harrow, cultivator or sweep are all that is needed to finish the culture; before that, we are the advocates of thorough and deep plowing, both in preparation and in subsequent cultivation.

There is another, as the Mormons would say, new revelation in science, which we cannot pass without notice—that the clay strata “has been hardening from the be-

ginning of the world.” It is no doubt true that once softened rocks have at great pressure at considerable depths in the crust become hardened, but the general tendency of the hardest mineral and metallic substances is, by elementary action, to become broken down; every frost and every thaw, the wearing action of the rain drops, are continually breaking up the solid parts of the earth's crust, the diluvial drift, that covers in varied depths, large areas of the earth, resulted in this way. Chemical reaction is ever and anon exerting its forces on inorganic matter; iron rusts, stones crumble, soils are the result; lime, silex and iron are occasionally seen cementing the pebbles into rough hardened rocks, but the general tendency is disintegration. Geologists say the earth has a crust of undetermined thickness; this they say was once in a fluid incandescent state, which on cooling, became hard, on which no organic life existed. In time, by above named forces, the surface was broken and fitted for vegetable life, and thus creation progressed, under laws of the almighty being who schemed the whole, and willed it to be.

If our friend is right, worse than useless has been our study of the great book of Nature, as well as a vast amount of labor thrown away on mischievous plowing. We have no doubt mischief has been done by plowing corn that had stood too long and the ground too hard and dry, but we pause for the proof of any corn ever having been hurt which has been duly plowed and kept in good condition. We think it would be rashness and truly unphilosophical for man to disregard the experience of ages. We agree that time-honored customs are not always right, but everything that we really know has resulted from experience; these are ever subject to the test, and in corn culture we have many sharp minds who have noted with care and chronicled in truth their observations, and the mass of evidence is in favor of the plow. We admire the force and fire of our friend's theory, and we are pleased with his facts, but we would here notice there are more false facts than false theories. By observation and comparison, our judgment is informed, without arraigning the economy of nature; we often see a redundancy of growth in corn in the form of shoots, as they are called; we see in the male animal the rudimentary form of a beast, but here we will stop and notice the economy of nature in the forest trees. The storm cloud

is the plow-share of the forest, their trunks and foliage are the levers, the hard pressing wind the power that loosens the ground and breaks the roots. We are not sure that our friend would add anything to give weight to his skin culture theory by a strict investigation into the cause of improvement in most of our cultivated plants. Something more than status and roots are required for the production of a good ear of corn. Air we think as necessary to a plant as to a man; our experience teaches us that a plant potted in a glazed pot soon languishes.—Again, when the roots become too numerous, the plant is always invigorated by breaking the roots and opening the earth around it, and it may be this breaking of roots and, as our friend would say, distributing the economy of Nature, is one of the means of improvement in cultivated plants. Stamens have been changed into petals in the rose and the dahlia; the hard pericarp of the peach has by culture been made soft and juicy. To run a coultter through a wheat field in the spring stimulates and invigorates, it tillers out, yielding remuneration for the labor. Here is root tearing where “the end sanctifies the means.” Fresh plowing after a good rain is to corn like a glass of good old wine is to a man. If breaking the roots and opening the ground has done harm, there is more than a balancing compensation in the rudeness of the plow-share. We say, in the close, go to the crib of him who plows deep and close, and see it burdened with the *big ears*, then to the skimmer, and tell us the difference; bring up the balance sheet and convince our judgment. We repeat it, “truth lies between the two extremes.” We may be wrong in all our notions; our brother must pardon us for thus daring to doubt what he so fully believes; truth is all we aim at, we are but a poor farmer, living on very poor land, and our only hope at present is deep plowing; if this fails us we are a gone coon, and give it up to the surface skimmer.

ABBEVILLE.

*Chinquelin Ridge, June, 1853.*

*Sitting Glass without Putty.*—The method of setting glass without putty, recently invented, is the following:

The window sash is made entirely of wood, the outside permanent. The inside is framed in such a manner that the parts can be readily removed, for the purpose of inserting the glass, which is placed between slips of India Rubber, which, when the parts of the sash are replaced, causes the glass to be perfectly firm.



## Calcareous Manure.

DEAR SIR:—As calcareous manures lie at the foundation of all agricultural success and improvement, I propose to present a few truths connected with them, which can hardly fail to interest, if not benefit many of your readers.

Taylor's *Arator* and Skinner's *American Farmer*, published at an early period of the present century, were the first agricultural works which attracted the attention of the southern planter, and awakened him to the necessity and advantages of improving his exhausted soil and unremunerating crops. In this way these writers accomplished much good at the time; but as they were not in advance of the science of their day, a defect attached to their system, calculated not only to lessen their benefits in many instances, but to produce serious evils in others. This consisted in their exclusive reliance on what was then called putrescent, but now are called organic manures, for the improvement of cultivated lands.

Edmund Ruffin, Esq., the greatest living benefactor of his state, and who, in the memorable words of Swift, which were adopted by him as the motto of his periodical, *The Farmer's Register* "for having made five ears of corn grow where but one grew before, and red clover to take the place of poverty, grass and hopeless sterility, deserves better of mankind and has done more essential service to his country, than the whole race of politicians put together," was the first to demonstrate the important truth, that inorganic manures, and especially lime in some form, is an essential element of a good soil. His *Essay on Calcareous Manures* disclosed, among other new truths, the important one, "that no soil can be permanently improved beyond its original state of fertility, without the aid of calcareous manures." This new truth, brought to light some eight or ten years after the appearance of the *Arator* and *The American Farmer*, convinced the disciples of Taylor and Skinner that they had been following imperfect guides, in the vain attempt to convert their silicious and poor soils into fertile farms, by means of almost unlimited applications of putrescent manures. It would not be extravagant to say, that in this way, millions of dollars worth of labor was misapplied and lost. From this truth, another corollary follows, which should be known by every one who has to buy or sell, or cultivate a farm—that where calcareous matter is not to be procured, land origi-

nally poor, though it be fresh and but little reduced by cultivation, will not compare in value with that which was originally good, but which may have been exhausted to the lowest point. With this brief historical digression, we now come more directly to our subject.

In the first place, we affirm that lime, in some of its combinations, is an indispensable element in every fertile soil.—This is abundantly proved by the facts, that analysis shows that all soils, the least productive, and all valuable crops, contain more or less of lime. As a further proof, it has been tested that the most barren soils, such as the thin silicious and pipe clay of eastern Virginia and the Carolinas, contain but little if any lime. If they have any, which their luxuriant growth of pine and other vegetables containing small portions of lime would indicate, it is rendered latent by the strong grasp of acids, which refuse to release it to chemical analyses.

The next enquiry is, how does lime act upon soils in promoting their fertility?

It produces two effects upon sandy or clay soils—the one mechanical, the other chemical. By marling or liming a silicious soil, which, in its natural state, is too loose and porous to retain moisture, heat, or fertilizing gases, is made more close, cohesive and retentive, and is of course greatly benefitted. In soils of pure clay or approximating to it, and which are nearly impenetrable to air, moisture and manure, lime has the effect of destroying their great cohesion, and making them friable, loose and mellow.

But the chemical influence of lime is more ameliorating than even its mechanical, great as the latter confessedly is.—Carbonate of lime, or lime in its natural state, is saturated with carbonic acid gas; when mixed with the soil in this state, it comes in contact with other acids for which it has a stronger attraction than the carbonic which it has derived from the air, such as the humic, oxalic, sulphuric, &c., and readily yields its carbonic to form new combinations, such as the humate, oxalate and sulphate of lime. In this way it forms a new soil, first by developing nutriment for plants which was previously locked up, as well as by storing up permanently, treasure for the future growth of plants, which would otherwise prove evanescent. In addition to all this, lime has the property of destroying many pernicious minerals. By combining with the sulphuric acid sulphate of iron, it forms plaster of Paris, a valuable manure,

besides nullifying the poisonous character of the former mineral. It also develops fertilizing silicates from barren sandy soils, by producing disintegration. Believing that enough has been said to give the reader an accurate opinion of the mode in which lime acts upon soils, as well as to convince him that such action must be beneficial, the next enquiry will be, what is the best form of its application?

Lime enters into combination with various acids, such as sulphuric, humic, carbonic, &c.; and these combinations take their names from the acids thus uniting, as humate of lime and carbonate of lime. But the most common forms in which it is used for improving lands are only the two of quick or burnt lime and carbonate of lime. Quick lime is lime decarbonated, or lime deprived of its carbonic acid gas by the action of heat. In this latter state it is thought best in cold climates, or where it is to act on large masses of vegetable inert matter, or to develop silicates from a sandy soil, or to decompose noxious mineral substances, such as the sulphate of iron. But in warm climates such as ours, mild lime or carbonate of lime, the form in which it is found in all our prairie or rotten limestone, in shell banks and in marl beds, is the form in which it has been most beneficial, economical and convenient for use.

Our prairie limestone contains usually from sixty to eighty-five per cent of carbonate of lime, which is as rich as could be desired. After being dug up and exposed a few months to the action of air and moisture, either at the quarry or in the field, it pulverizes so as to be well prepared for spreading on the land.

What is called marl, no matter of what kind, is valuable for manuring, chiefly for the carbonate of lime contained in it.—This value, it is true, may be enhanced by the organic matter which is frequently connected with it, in the same manner that the value of a gold mine would be improved by the union of precious stones or other valuable adjuncts.

Lime is liberally used in every country which can boast of a prosperous and improving tillage. The bounty of the Creator has furnished it abundantly for all human purposes, for it is estimated that carbonate of lime forms one-eighth of the crust of our globe. To secure the chemical benefits of lime, it is necessary also to furnish a suitable quantity of vegetable matter in some form, whether it be the growth of the land where it is spread, or furnished from the barn yard or woods.



In making farm yard manure, it will greatly improve and economize it to mix it freely with lime. Decomposition is thereby hastened, and the escaping gases are absorbed and stored up for the future food of plants.

The next, and final inquiry is, what is the proper quantity of lime to apply?

This will depend so much upon the circumstances of each particular locality, that no definite and fixed rule can be given. Experience must be the guide, and there can be no difficulty, unless an over dose is given, which, however, is easily remedied by time or applications of clover crops, for clover has been found to do well in soils which are too calcareous for other crops.

Fertile soils have been found, upon analysis, to contain various proportions of lime—some two, some four, and others as high as sixteen, twenty and thirty per cent.—Indeed, this proportion is by no means a sure index of the fertility, for the reason that a large supply of vegetable matter, by its acids, may have neutralized much of the lime and concealed it from analysis, at the same time that it has enriched the soil by the formation of fertilizing salts.

Our best black prairie soils have been found to contain eight per cent of carbonate of lime. A specimen of the richest cane-brake soil contained sixteen per cent, and one from Choctaw prairie, in Mississippi, thirteen per cent of carbonate of lime. Other fertile soils in the vicinity of the foregoing, and like them lying upon a limestone substratum, did not show any lime at all in the form of carbonate. From twenty to thirty per cent of carbonate of lime is not an unusual proportion in the best soils of France and England.

Mr. Ruffin found that no injury was even sustained by the application of 250 bushels of marl, containing 4-10 of calcareous earth. As our limestone contains about 8-10 of calcareous earth, it will probably be most judicious to apply in the first instance about 125 bushels to the acre, and annually or biennially renew the dose, as observation may indicate. Experience both in this country and England goes to prove that frequent and moderate applications are preferable to heavy doses with long intervals.

Professor Johnson says that in the county of Roxburg, in Scotland, where it is usual to lease land from nineteen to twenty one years the custom is to apply from 240 to 300 bushels of quick lime to the acre, at the beginning of the lease. The crops are found to improve by this dress-

ing until the tenth year, when they reach their maximum, and then decline as gradually as they improved, until, at the end of the lease, they have reached their condition at the beginning, before they received the lime.

Upon the whole, there can be no doubt that the best general rule on the subject is, to give your land, in the beginning, as large a dose as it will bear without injury, and yearly afterwards apply as much as is taken away by the crops. From 5 to 10 bushels per acre, it appears from high authority, approximates to the general waste.

It should not be forgotten that valuable, nay indispensable, as lime or marl is to the improvement of our lands, to secure its full benefit, it must be connected with the manuring system and rotation of crops. All experience fully establishes this truth, and to expect any permanent improvement in our soils under the present scourging process of continuous and unvarying hoe crops of corn and cotton, were as idle as to expect that a patient with one of his leading veins open, should increase in health and vigor, while his life's blood is permitted to flow out.

And in conclusion, let me say, that the time has already arrived for Alabama to commence this improved system of husbandry, unless she is resolved to go down to the lowest depth, where there is no lower state of exhaustion. The sooner now the better. The more exhausted land is, the more costly and tedious is its renovation. To this complexion we must come at last—a change of our planting system, or unremunerating crops. Our individual, social prosperity, not less than that of our noble State, urges upon us the former alteration. The example of some of our sister States are encouraging and wooing us. Mr. Ruffin says that since 1828, by marling and rotation of crops, in Eastern Virginia, (of which system he can proudly say, *magna pars fui, et auctor*.) individual estates have increased in value ten fold, and the assessed value of lands in that part of the State, while not more than one twentieth part of them has realized the benefits, has increased to the amount of thirty millions of dollars. And further, that when the benefits of this beneficent system shall have embraced one-third or one-half of this portion of Virginia, the increase in individual and public wealth will be estimated by hundreds of millions.

You, my dear sir, have embarked in the noble and patriotic enterprise of urging on the agriculturists of our State, this

great, good work of an improved and improving husbandry, and that you may realize your brightest visions, your most cherished hopes, is the sincere wish of your friend and obedient servant,

ISAAC CROOM.

—*Am. Cotton Planter.*

#### How to Restore Inorganic Matter to a Soil.

Our readers must not forget our subjects or our terms. Last week we explained organic matter to be of animal or vegetable origin, and briefly pointed out how it is to be restored to a soil.\* We now state that inorganic matter is of mineral origin, but it is not so easy to point out all the methods of restoring it to a soil.—But to be understood as to the terms—Hair, horns, hoofs, leather clippings, and all such substances as are produced by animals, are chiefly of animal origin, while decayed straw, surface mould from the woods, swamp muck, &c., are chiefly of vegetable origin. Matter of animal or vegetable origin is called *organic* matter, because in some way or other, it once possessed those *organs* that are essential to reproduction. All mineral matter is called *inorganic*, because it does not possess those organs, and hence the distinction must be clearly understood and constantly kept in view.

Among the mineral substances that enter into the composition of soils, and those that are most generally found, are siliceous sand; alumina, and the carbonate of lime. Those that are less frequently found are, sulphate of lime, or plaster; carbonate of magnesia, oxyde of iron, and oxyde of manganese. Now we have seven mineral acids and seven oxydes. The oxydes and acids are seldom found separately in soils, but in a combined state, forming salts. For instance, phosphoric acid and lime are found as phosphate of lime, (a salt); carbonic acid and lime, as carbonate of lime, (a salt also); sulphuric acid and lime, as sulphate of lime; and so each of the acids, with other oxydes, forming various salts. Now the object of applying mineral manures to soils is to supply them with one or other of these salts. And, as we have seven mineral salts, it will of course be only necessary to ascertain which of them is missing, to enable the farmer to restore it to his soil. A soil, however, is seldom deficient in more than one or two mineral ingredients. Clover will not grow well on lands that do not contain sulphate of lime, because this salt is essential to the growth of clover, as the ashes of the plant are

\* See June number of Farmer and Planter.



found to contain a considerable quantity of sulphuric acid and lime.

We remarked last week that common salt and lime are the only ingredients that the farmer ought to import for the renovation of his land. To this doctrine will we continue to adhere, until all his home resources for the making of manure have been patiently tried and fully exhausted. To those that court the *honor* that *expense* brings, we will raise no objections. If any see fit to import costly manures and allow that which is equally valuable to take wings, in the form of vapor, and flee away, we will leave him for a season in the hands of dame Experience, but will not leave him unwarned. And we venture to affirm that there is not a substance imported, whether it be poudrette, guano, or phosphate of lime, for which our own Carolina does not afford an appropriate substitute.—*New Era*.

#### Degeneration of Cotton.

MESSRS. EDITORS:—I sent you a boll, and 13 seed, two of which were large white Mexican, two Petit Gulf, and the rest to me unknown.

In 1808, (cotton was 30 a 37 cents per pound,) cotton bolls were small and the seed green, and to which the lint adhered tenaciously. A hand could pick on a fair average, 50 pounds per day. A gin that could pick 600 pounds per day was sought after at any price and wagoned 150 or 200 miles. In those days was discussed the perpetuity of Whitney's patent.

Now (1853) cotton has grown much larger, the seed no longer than the little green seed, but their name is legion.—The bolls are large, 100 to the pound, and in the case of the boll I sent you, 30 to the pound. The staple is superior in length, strength and fineness—a fair average, like the above 150 pounds or three to one can be picked in a day.

Mr. William Seabrook for many years sold his best cotton for one dollar a pound, and Mr. — has sold his at \$1.40 per lb. Mr. Seabrook went through his fields sampling them, and selected his seed from such stalks as bore cotton of the description that brought \$1 per pound; and after the seed were picked out, they were again selected—i. e. all those seed not free from leaves, a tuft at the smaller or bud end, were rejected, (being hybridized.)

Sea Island or black seed cotton, raised out of the immediate vicinity of the ocean, is 50 per cent advance, on its own price, inferior to that on the islands surrounded by salt water. Cotton grown on the islands is very different in close proximity;

a road may divide two fields, the cotton from one of which may be worth 20 cents, and from the other \$1 per lb.

In Mississippi, \$5 per boll, and even \$2.50 per single seed has been given for cotton seed.

In our cotton fields, from the same seed, many varieties of cotton are growing.

From the above facts we conclude that cotton has improved in the last forty years, and that it is susceptible of much greater improvement.

In all plants, it is necessary to their perfecting their seed, and consequently reproducing a healthy, flourishing offspring that it should be cultivated in such a manner, and in such soil and climate as is most congenial to it.

Should cotton seed be brought from a distance, or that grown on the spot used, supposing it to be the same kind of seed! If the seed be carefully guarded from hybridization, the seed raised at home would be preferable, because it is acclimated and naturalized—that is to say if it were brought from a colder country, it would sprout too early in spring and come to maturity too early in the fall, and *vice versa*. Because, if cotton raised from good seed degenerates below the standard of the cotton from which it was obtained, it shows that it has degenerated from one of the causes mentioned above, and that it would not do as well as home selected seed. In connection with which I will quote from an Essay on the Soils, &c., of the state of Georgia, by J. R. Cotting, p. 110, (many copies of which valuable work can be bought in Milledgeville at the price of waste paper.)

“A very rich deposit of decomposed vegetable matter, part of which has been in cultivation many years, but almost every vegetable, particularly cotton, blaws, mildews, or rusts, that is planted on it.”—Then follows the cause and cure.

If several varieties of cotton be grown in contiguous fields, the seed from such cotton will present all the varieties of appearance in every field which were peculiar to each; i. e. the pollen of the cotton blossoms, like that of the peach, corn, wheat, cabbage, or any other plant, will mix, and at considerable distances. The only way to preserve cotton then, from this cause of deterioration, would be to plant the seed as uniformly of one kind as possible, and as far from neighboring fields of dissimilar kinds as can be accomplished.

Too early planting is much to be con-

demned. All tender plants such as snaps, okra, cotton, &c., when chilled by frosts in early spring, perhaps never recover their full vigor. And should the grass spring, on account of early rains, no time, not one working, either with the plough or hoe, will be saved. Whereas were cotton planted to be up by the middle of April or first of May, according to the season, it would be fit to pick fully as early as that planted a month earlier; and this advantage would also be gained, that the ground would be broke or at least bedded up a month nearer to the season when cotton, planted when you will, begins to grow, i. e. first of June; and lastly, the seed leaves perform a very important function to the young plant, and should they be injured by frost or cold, the cotton would be as hard to make grow, or even live, as a child born at six, seven, or eight months,

J. J. MITCHELL.

—*Recorder Supplement*.

#### Nut Grass.

We observe an inquiry made in the June number of the Southern Agriculturist as to the best mode of getting rid of this prolific and invincible rooter. In answer to the enquiry, the editors of the paper state that the Rev. Dr. Bachman, of Charleston, who is at this time the most distinguished naturalist in America, informed them that after the great fire in that city, which occurred in 1836, the nut grass sprung up on the site of a burned house that had been erected over half a century. From this fact, the inference is rather incidentally drawn, that its eradication is next to an impossibility. Now we very much doubt the logicity of this deduction. It is a well established fact that perfectly matured seed may retain their vitality for centuries; and yet the same seed under unfavorable circumstances may lose their vitality in a very short time.—Nor does the length of time which seed may retain their vitality, bear any relation to the tenacity of life of the parent plant. Wheat is well known to be a tender and delicate plant, and that the vitality of its berry is often destroyed on the stalk by a few days unfavorable weather; and yet perfectly matured grains have retained their vitality from the days of Joseph and the Pharaohs up to a period quite recent.

That nut grass can scarcely be eradicated from the soil, we are well aware; but this is independent of the length of time that its nuts may retain their vitality.—We are, however, of the opinion that it may be utterly destroyed. If an agen-



can be found which will destroy the vitality of the nuts, or prevent their maturity, then the object is accomplished. A successful experiment to do the latter, was made in this town a few years ago. A gentleman whose garden was overrun with grass, and who had resorted to every other expedient without even partial success, made an experiment thus: He dug up and manured a spot about six feet in diameter in his yard, and set it out thickly with nut grass, which he suffered to grow for two years; in which time, as the saying is, it was as thick as the hairs on a cow's back. In the spring of the third year, as fast as it appeared above the ground, he shaved it off with a hoe, by which he effectually prevented the growth of foliage. In the spring of the fourth year, there were but a few scattering plants, which he treated in the same manner. In the spring of the fifth year, nor since, has a spear of nut grass appeared. Encouraged by this success, he adopted the same plan with his garden, and the second year he was but little troubled with nut grass. Such a result might readily have been inferred from the known laws which govern vegetable economy. It is well known that there are few plants, or even trees, which can bear being stripped of their foliage for one summer. Foliage is essential to maturing the nut of the grass which we are considering, and if you prevent this, you destroy the plant, unless there are matured nuts of a previous year's growth on the soil, which are not in a position to vegetate, but which subsequent tillage may bring into such a position.

Salt has been used to destroy the vitality of the nut, but with very partial success, in consequence of the large quantity required, and the difficulty of getting it in contact at the depth which the nuts penetrate. We have thought that perhaps the most efficient, as well as the least expensive agent which could be applied to destroy the vitality of the nut of this plant, would be guano. We have heard of no experiment made with this article, but would infer from its very caustic nature, that a large quantity intermixed with the soil would prove a panacea. It might require a thousand pounds to the acre; but who would not spend twice that amount to eradicate such a pest from his plantation? Moreover, should it be successful, the expenditure would be far from a loss. It would only be a heavy dose of the best manure, which would amply repay its cost. Will some one try the experiment

and give the public the results?—*Cheraw Gazette.*

#### Fine Corn.

On Saturday last we visited, by invitation, the garden of Chancellor Johnson, and our eyes were regaled with a spectacle that indeed surprised us in these times of drought and desolation. In the midst of the garden there is a small lot of as green and vigorous corn as we ever saw, and yet for seven weeks there has not fallen upon it rain enough to wet the ground an inch in depth. The stalks are about five feet high, two inches and a half in diameter, and present that dark-green and shining appearance which so much delights the farmer. They stand about ten inches apart in the drill, and three feet between the drills. This unusual phenomenon was explained satisfactorily, when we were told that the ground, in which the corn is planted, had been spaded up, thoroughly pulverized and intimately mixed with the compost to the depth of six feet. At this depth brush had been deposited for the purpose of drainage.—Now here is a practical, sensible exemplification of the great benefits of deep ploughing, heavy manuring and thorough drainage. Will not our farmers learn a lesson of practical wisdom from the example of Chancellor Johnson?

We also noticed a patch of melon vines, planted and tended in the mode described in our paper of the 24th Nov. 1852. They present the same forward, thrifty appearance as the corn. We noted the fact that about two feet of the runners—the tenderest part—had been severely bitten by frost on the morning of the 26th ultimo; so much so, as to require the portions so affected to be cut off. There was indubitably a slight frost in this vicinity on the 26th of May! Mark it down in your diaries, all of you.

The pains-taking in horticulture and in fruit culture, of Chancellor Johnston, will be abundantly rewarded. May he live a thousand years to enjoy the fruits of his labors.—*Newberry Sentinel.*

#### Care of Carts and Wagons.

It is strange what a difference there is among farmers with regard to housing their wagons and carts. Prudent economical men in most things, are wholly insensible to the great loss they experience by allowing their expensive vehicles to be beaten upon and soaked by the storm, and checked and shrunk by the blazing sun.

Wagons and carts from the maker's shop are seldom well painted. The owner

gets so anxious to be using his new cart, and the old seems so unbearable, that the cart is taken from the shop before the little openings in the wood and joints are half filled with paint—the farmer guesses it will do, and the way it goes to commence a straight forward course to decay. A few days after, it rains, the cart body is soaked through, the joints absorb water and swell. By and by, when the water had dried out, after having been dragged about the farm for several days, the joints became loose. The process only needs to be repeated a sufficient number of times to give you a heavy, rickety body, which in a few years breaks up, and sends you to the mechanic again.

But the wheels are the most important part. Upon them has been the most labor expended in proportion to their weight, and of them should the most care be taken. The hubs, generally, are made of elm. Elm exposed to the weather, is of short duration. It is used because it is difficult to split it in driving the spokes.—White oak timber—indeed all timber—loses its tenacity after being exposed again and again to rain and air. The hub then grows soft, the spokes settle into it a very little, and the consequence is that the tire is loose, and the blacksmith's aid is needed.

A wagon left out of doors a few years becomes a spongy, heavy mass, unprofitable to use. As proof of the correctness of these remarks, we know of a farmer who has run down three sets of wheels by exposure, and not by work, while another has a set of wheels perfectly sound, built a year or two before his neighbor's first pair. In the first case, the wheels have never been housed, winter nor summer, but have been left by the road side, as if impregnable as the stone wall to injury from the weather. In the other case the cart has been uniformly housed, and always well painted. It must be very intelligible to the reader which is the wiser course.—*New England Farmer.*

The large stock of blood horses belonging to the estate of the late Wm. Gibbons, were sold at auction on Tuesday, at Madison, N. J. Among the number sold, was the celebrated racer, "Fashion," Now 17 years old, bought by Mr. Morris, of Morrisania, for \$1,550. Bonnets o' Blue, the mother of Fashion, 26 years old, brought \$100; Patsey Anthony, 13 years old, \$2,70; Mariner, 17 years old, \$2,70; and others of lesser note at prices varying from \$70 up to \$620.



**Damp Stables.**

When I first came to the farm which I now hold by purchase, I found the stables built under large trees, and near a spring of water, with a northern aspect. My horses were soon in poor condition, with long and rough coats, and almost always lax in their bowels, nor could I get them up by extra food or lighter work; but my cows suffered most, for they were always sick. Their milk fell off, and their butter was poor, and of a bad color and taste, and four of them slipped their calves before their time. When the spring came, they left their winter quarters in a worse state than I had ever seen them, and two of them died from scours on going to pasture. On inquiry I found that the tenant who had left had always been what the neighbors termed unfortunate in his horses and cattle, and from that cause more than any other, he had not been able to make both ends meet. The truth flashed upon me in an instant, and in a very little time longer than it has taken me to tell my story, I had commenced pulling down the stable, the unhealthiness of which had been, I was convinced, the cause of all the evil and all the loss; and it was not more than two days before there was not left one stone upon another of the whole fabric. I now set to work and erected another on higher ground, removed from water, and clear from the shade of trees, with a south-east aspect, and dry capacious yard; and from that day I have had neither sickness nor sorrow in my outdoor household. My horses live on less food, are always sleek and in good condition, and my cows are a credit to their keep. Our butter brings 2 cents a pound more in the market, and for the last year our sales are more than doubled from the same number of cows and the same pasturage, and no more premature calves. Instead of watering my cattle as heretofore, at the spring under the trees,—the water cold, with a deadly taste and bad color,—I sunk a well, and put in a pump; and at a long trough in the yard for the summer, and another under shelter for the winter, my cattle slake their thirst without setting up their coats, as they always used to do after drinking at the hole under the trees. Even when the weather was warm, they were accustomed to shake all over as if they were in a fit of ague, after drinking their fill of this water; and to this, with the bad aspect of the stables, I attribute all the sickness and misery which I have experienced amongst my cattle and horses.

es.—*Correspondence of the Boston Cultivator.*

**Chimneys.**

In building chimneys, in brick walls, the inside should be plastered as carefully and smoothly as the finishing coat of a parlor. Masons do not do this; they put on the common lime use for by them for jointing, and the interior surface is covered without a proper regard being paid to the functions of the chimney. The reasons for laying on the lime coat of a chimney smooth, are obvious, if we take into consideration that the rough edges of the lime, when dry, serve as points of attraction and adhesion for soot, because they resist the passage of the smoke. A smooth chimney has a better draught, to use a common term, than one with a rough interior; the reason of this is also obvious, because rough surfaces retard the passage of smoke, as well as water or any other substance in motion is retarded by them. In the building of houses, masons are too careless about these things; indeed, the majority of them do not appear to have any knowledge of natural philosophy, yet there is no man living, be he mason, plasterer, or hod-carrier, but stands high as a workman according as he is well informed.

Were it not for the general form of the walls of buildings, it would be much better to have the chimneys built of a round or oval shape, like the funnel of a steamboat. The flues in brick houses should be built circular inside; this would be a little more troublesome, but the flues would be all the better for it; yet, if they were only plastered smooth, no one would have to complain of a square or rectangular form.

Some chimneys are built with tremendous gaping fire-places, others are built wide at the base, and taper towards the top; both plans are erroneous. A moderate wide fire-place is all that is required (we have wonderfully improved on our forefathers in this respect), and it would be far better, if a chimney is built tapering, to have the widest part at the top, where the smoke is to make its exit. A reason for this is, that when the smoke is confined below, and suddenly allowed to expand at the top, it forms a partial vacuum, which draws up the smoke. It is upon this principle that Prof. Espy's Ventilator is constructed. It may be said the open expanse above the chimney, allows the smoke to expand, therefore it is no use to widen the top of the chimney inside; this is very true.

The rules which should be followed in

the building of a chimney, is to build it of a uniform diameter from bottom to top, not too wide, and smoothly covered with plaster inside.

The object of writing this article was to direct attention to make the interior of chimneys smooth and well covered with lime. In many cases there are chimneys built for small houses, of a diameter which would enable them to carry smoke away from one of Collin's steamships. Masons do not take into consideration, when they build a chimney, what it has to do, namely, to carry off smoke from one or two fires. The narrower the chimney the better will it draw, consequently a wide chimney for a small fire—a very common error—embraces a scientific principle, as erroneous as it would be to array Tom Thumb in a suit belonging to Giant Hale, for the purpose of refrigeration in the dog-days. We have used the term draw, in respect to the current in the chimney, as it is generally understood; the principle of draught in a chimney has nothing to do with pulling or drawing the smoke—pressure, expansion, and absorption are the governing causes of aerial currents.—*Scientific American.*

**Sulphate of Zinc---To Farmers.**

A correspondent of the New England Farmer, who was formerly a practitioner of medicine, makes some very interesting and useful remarks about the application of the sulphate of zinc in solution, as a wash for horses, cattle, sheep, &c. He asserts that it is excellent for sore teats in milch cows, and mentions a few cases where its application was at once effectual and permanent. For washing all kinds of wounds and sores, we believe that the sulphate of zinc will be found to virtue by those who use it, superior to any solution with which we are acquainted. We have been acquainted for a number of years with its useful properties for inflammation of the eyes, for which a very weak solution should be used; also for washing all kinds of sores. So says the *Scientific American*, and other authority affirms what is here stated.

**The Cut Worm.**—The best protection against the attacks of worms upon the young corn plants, is an application of plaster and salt—say three parts of plaster and one of salt, putting about a table spoonful of the mixture around each hill, taking care, however, that it does not come in contact with the plants. This is practiced by many farmers with uniform success.—*German town Telegraph.*





## The Farmer and Planter.

PENDLETON, S. C.

Vol. IV., No. 7. : : : July, 1853.

## Errata.

In the notice of Mr. Sharpe's clover, page 108 of this number, for 100,000 acres, read 4 acres, and for 25 tons read 15 tons. Not recollecting the number of acres, the space was left blank, and the printer for convenience filled it up with 100,000, which escaped notice in correction till after that side had been worked off.

## Upper Georgia.

We desire to call the attention of our friends who may wish to settle in this desirable part of the State, to the advertisement of Col. Shackelford, who will no doubt be able to supply them with a most admirable place on accommodating terms.

## To Correspondents.

A subscriber writes us: "As I believe I am the only subscriber to your paper from Lancaster, I have thought it my duty to do something towards procuring you a few subscribers. I send you two, as above, and shall endeavor to do something more."

Thank you friend H. H. G., for your kind attention. Old Lancaster has truly in numbers, made a small showing on our lists; with a few such friends as yourself, however, now that the ground is broken, we shall confidently expect to make yet a better report before the close of our volume. We have plenty of back numbers on hand, so send on your names, for we assure you we need them. If the two you now send will send us two each, and each successive two, two more until we shall have the names of every man or woman, (we prefer *one* woman to *two* men,) in old Lancaster and in the state, we shall be most happy to receive them, and will pledge ourselves to double the size of our paper, redouble our exertions in the good cause, and when friend PERRY gets the people to voting directly for President and Governor, we will not only vote for you ourselves, but will influence every man we can to do so, for either office you may prefer, believing as we do that you will thereby have done more for the agricultural advancement of your state than have all the politicians in it ever done.

## Sandy Land---How Shall I Improve It?

MESSRS. EDITORS:—I wish to enquire through the Farmer and Planter for the cheapest and most speedy way to improve my land, which is of three different qualities. 1st. Black, loose and sandy;

2d. brown or nearly yellow sand; and 3d. stiff sand. It produces about 800 lbs. of cotton per acre without manure. Will a coat of pine leaves and woods trash thrown broad cast over it, and plowed in with a turning plow, and a small bull-tongue in the same furrow, do? (a) 2d Will lime pay at \$2.75 per barrel delivered? (b) If so, how much per acre and how applied? 3d. Will swamp mud and woods trash make good manure? (c) If so, how manage and how apply? I have almost any quantity of swamp mud convenient. 4th I want the most effectual mode of managing broomsedge in stiff flat bottom land not worn out but grown up with sedge, briars, &c. (d) Information on the above questions will be thankfully received. My farm is on a small scale, hence the greater necessity for improvement.

SAND LEVEL.

REMARKS.—(a) We should for light sandy land greatly prefer composting the pine leaves and woods scrapings with lime, before spreading and turning in.

(b) We think not, unless in small quantities to make a compost as above recommended.—Probably you may procure ashes on much better terms, and on such land we would prefer good unleached ashes to lime. The quantity of lime should in all cases be given according to the amount of organic matter, and the state of that matter, whether more or less decomposed, in your soil.

(c) It will, especially if composted with lime or ashes, or both, and if the lime was slaked with strong salt brine it would add much to the value of the compost. Spread on the land more or less, according to your means, and plow in at any time previous to plowing in your crop. If you cannot procure the lime or ashes on reasonable terms, haul your muck on to your fields in the fall or commencement of winter. Spread and let it lie exposed to the action of frost until spring; then turn in before planting.

(d) On your stiff bottom lands thorough underdraining should be the first operation. Then in the fall of the year turn under every thing, even the briars if you can, following with a two horse sub-soil plow in each furrow. Let it lie till the spring, spread your compost, harrow well and roll. Plant shallow and cultivate superficially.

Having written you heretofore on the subject of improving sandy land, we make the above remarks in answer to your inquiries for the benefit of others of our subscribers similarly situated, as well as for yourself. We trust however what we have said will not deter any of our able correspondents who may understand the proper management of such soils from giving you their views and *modus operandi*.

## Valuable and Well Improved Farms.

To our friends wishing to purchase farms in the upper districts, we would say, delay no time in seeing the places now offered by Messrs.

MAXWELL and SLOAN, (see advertisements,) lest you may not again have such inducements to purchase as are now offered you. The Rail Road will shortly be beaten, after which, look out for a rise of 50 per cent on all lands contiguous.

The farms of Mr. MAXWELL and Mr. SLOAN adjoin. There is also another small tract of excellent land, all in the woods, but well improved in the way of dwelling house and out buildings, adjoining to these, which we understand is for sale. Hence any two or three friends wishing to settle near each other can be accommodated. We know the places well, and believe Mr. MAXWELL has one of the best, if not the best improved place in Pickens district. The tract contains, as stated in his advertisement, 1000 acres, on which there is 6 fields of about 65 acres each, all systematically ditched and drained and in a high and improving state of cultivation. In each field there is a house for the hands to shelter from storms or sudden rains.—There is also an orchard of 8 acres, 3 of which is choice grafted fruit. Lots for all kinds of stock. The buildings are a comfortable dwelling house with a wide passage and 5 rooms.—A good kitchen, and 10 negro houses, framed, with brick or stone chimneys. These houses are not all crowded together, as is too often the case, but at suitable distances apart and all convenient to a good spring of water. A large gin house 31 feet square, and cotton screw, surrounded by a shed. A threshing machine house two stories high, with a thresher and fan, and one of Deal's corn crushers. A large barn, shedded around, with stables on three sides, 15 in all, and a well in horse lot. A large elevated rat proof corn crib that will hold 1200 bushels of corn—a large barn for fodder and shucks—a gear and tool house, ox stables and cow houses. A cotton seed and chaff house, all systematically arranged for easy access and convenience.

There is on the premises, also, a saw and grist mill and an extra shoal for any other machinery. And last though not least, a garden, recently well paled in, covering an area of one acre of land, and at this time well stored with all necessary culinary vegetables.

Mr. SLOAN's is also a neat farm, with snug and comfortable dwelling and buildings of every kind, all new and in good order; but we have said enough we think to induce you to come and see if you wish to purchase.

## Australian Wheat.

We have seen a fine specimen of this new species of wheat, which grew upon the plantation of Dr. Wm. P. Andrews, near Cambridge, in Abbeville district. It is like the usual "bearded" wheat, except that the grain is perhaps a little larger, a little whiter, and it is certainly covered by a thinner skin, which will give more flour to the bushel. The Dr. says that though it heads as early as our ordinary wheat, yet it is longer maturing, but that it still ripens early enough to escape its arch enemy, the rust. He has only a half acre in



cultivation, which he estimates will yield fifteen bushels—a much better turn out, we think, than a *whole* acre generally makes in this part of the world. But the great quantity of lime in the soil about Cambridge, doubtless has something to do with its famous wheat crops.

All of the seed which the Dr. may be able to spare has already been engaged by his neighbors. We hope that the farmers of Edgefield will imitate the Dr.'s enterprise in introducing this new wheat.

#### Clover.

Mr. Edmund Penn of this place, brought into our sanctum the other day, a luxuriant bunch of this very important grass. At first sight, we confess that our credulity was severely put to the test, to believe that fresh clover vines of *full six feet* in length could be raised in Edgefield district as an ordinary thing. Oh ye lazy farmers and ye loafing villagers, with poor horses, what are ye about that ye do not cultivate a meadow or clover patch in order that your stock may get an abundance of cool, green food, which is as indispensably necessary to the health and thrift of your work horses, particularly at this season of the year, as fruit and vegetables are to the human system.

We hope Mr. Penn will inform our readers as to his mode of cultivating clover, the soil that he selects, the species of clover that he uses, whether annual, biennial, triennial or perennial. Ourselves and our patrons will thank him most kindly for such information. It may promote in some degree the raising of stock in this country, and to stop the annual tribute which we are paying to Kentucky for mules and horses.

REMARKS.—We transfer the above notices of "Australian wheat" and "Clover," from our excellent exchange the Edgefield Advertiser, the editor of which, in speaking of the yield of Dr. Andrew's half acre of wheat, estimated at fifteen bushels, says: "A much better turn-out we think than a *whole* acre generally makes in this part of the world." Indeed it is, friend SIMPKINS, better than *two* whole acres of more than one half the whole number of acres cultivated in our state will produce; but which would not be the case, even on the same land, if more pains were taken in putting the seed in. When we see the slovenly, careless manner in which this operation is too frequently performed, our greatest wonder is that we make half as much as we do. With a light application of guano, or which is better, of cotton seed rolled in guano, on the lands in the vicinity of Old Cambridge we might reasonably expect as abundant crops of wheat as from any other part of the state. And we will take

occasion here to say to our friends, that there is no more convenient or profitable application of guano than in the manner above suggested.—Wet your cotton seed, roll them in guano, in the proportion say of one bushel of the latter to ten of the former. Then, your land having been properly prepared by at least one good plowing, followed by a subsoiler, scatter the cotton seed say at the rate of ten, twenty, or thirty bushels per acre, according to the strength of your soil. And after soaking not less than twelve hours in a strong solution of blue-stone, and rolling in lime, if you have it, sow your wheat and plow all in together lightly, harrow or roll, and console yourself with the anticipation of an abundant harvest, *Fungii Sperule* or *black bug*, nevertheless and notwithstanding.

"CLOVER." Very good indeed, Mr. Penn. Surely, as the woman said of her cow, you have got into the breed of a "*mixtree* of the Buffalo." Probably, however, of the "giant" or (large red) *Trifolium purpureum majus*. There is no doubt with us, having the proof daily before our eyes, that clover may be grown successfully in our state with no extraordinary trouble. We are now feeding our horses daily on our first cutting, made before the dry weather set in, which is truly a God send to us, as the oat crop is likely to be entirely cut off. A few stalks of clover, *trifolium pratense*, may be seen in our office at this time, between 3 and 4 feet long which was grown on a lot in our village by Mr. JOHN HASTIE. And Mr. ELAM SHARPE, also of our village, has at one cutting the present year, realized some 25 tons of mixed hay (clover and grasses) on a small meadow not exceeding 100,000 acres, and yet with these facts and many others we have heretofore given, starting them in the face, it is argued, by many and oftentimes by those who never made *one* experiment to test the truth of the assertion, that clover cannot be grown at the South.

#### South Carolina Planters and Farmers.

The following complimentary notice of the Farmer and Planter, and of the planters and farmers of South Carolina, by the editor of the Dadeville (Ala.) Banner, was referred to in our last, but not published as intended:

"The 'Farmer and Planter' also appears in *good dress*, and both its editorials and communications exhibit taste, ability, and sound practical judgment. Without detracting from our own State we are of the opinion that the South Carolina planters and farmers greatly excel in all the arts and appliances of agriculture. In *pitching*, cultivating and maturing a crop, their calculations are made with the greatest imaginable precision. Not a *hands breadth* of land, not a *muscular fibre*, of the *worker*, not an *ounce of forage*, nor a *fraction of time*, is uninvested, unemployed, lost or misapplied. Every thing is strung up to its full productive capacity, and the year *heels up* in dollars and cents, all that the most energetic labor guided by skill-

ful and enlightened intellect could possibly extract from the quantity of area cultivated.

Is this a fair *etching* of South Carolina agriculture, Mr. Farmer."

A pretty "*fair etching*," brother STRONG, and for which please accept the thanks of the planters and farmers, through the Farmer and Planter.

#### To Prevent Dogs from Killing Sheep.

"Agricola" is out again on the dogs. Will our readers take the hint? If our popularity loving legislators will not venture to act for us, we should act for ourselves. Below will be found the "*remedy*," with "*symptoms or signs*" indicating the propriety of its application as given by Agricola in the Mountaineer.

MR. EDITOR:—Seeing in the other paper published in this town, an advertisement by one of our mercantile houses, offering to purchase a large quantity of wool, we have thought proper to invite the attention of your Greenville readers to two or three considerations connected with the business of raising wool.

In the first place the opinion of the best informed people in such matters, is, that there is no danger, for at least a considerable number of years, that the market for wool will be glutted. In the second place, the facility for transportation now offered to the farmers of Greenville, will enable them to enter the market of the world on equality with the farmers in other sections, with the wool they may produce.

Speaking yesterday of the advertisement before alluded to, with another merchant of our town, he told me he also would buy all the wool that offered at fair prices. These circumstances indicate unmistakably to me, that farmers of the mountain part of the state, have now a ready demand for another staple production which they have heretofore mainly neglected. The improvement of the breed of sheep and the promotion of their health and vigor are now matters of great importance.

I also hear of various gentlemen wanting to purchase sheep. I would therefore suggest the propriety of not slaughtering the ewe lambs of this season, or in fact, any breeding ewe. The number of ewes should be increased with care, and our people immediately begin to study how to improve the quality of the fleece, and the health of the animal. Of the latter part of this proposition I now propose to speak.

Some of your readers may possibly remember an article I published a year or so ago, on the use of Strychnine in sheep walks. I propose now to say one word



more on that subject. My discovery is no humbug, but a valuable truth of great importance. Further experience has confirmed what I asserted in the other article, but some other good effects have been noted, which were not observed. Dogs will not eat sheep when the Strychnine is liberally used in the pasture. The roughish rascals were very frequently interrupting my flocks and helping themselves to just such mutton as they preferred without leave or licence. But no such occurrence has taken place since the strichnine has been used. This is after all the *great matter*. For of what avail is it, that sheep become gentle, thrive fast, multiply rapidly, have fine coats of wool, if the stealing mongrels of the country are to appropriate them to their use without the consent of the owner. This is in fact the great difficulty, for my farming friends are constantly saying they would raise sheep, but that the dogs run off with all the *profit*. This has also been my experience until the employment of my new discovery. Since then I have no fear of the ravenous appetite of the greediest blood hound, much less animals of a less ferocious nature.

I will now give my plan of using the remedy, and the symptoms or signs by which I am governed in its use. Take from a grain and a half to two grains of Strychnine, roll it carefully in a piece of ham or other lean meat, thinly sliced, and tie it up with a small thread, so that none of it can escape. Then take a stick from ten to twelve inches long, sharpen both ends, stick one in the ground and on the other stick the Strychnine loosely. Be sure that the medicine stands from the ground about as high as the sheep's nose when he is walking leisurely along, so that he will be sure to smell it in passing. Now there should be a considerable number of these doses in various parts of the sheep walk in proportion to the number of sheep. It is safer to have too many than too few. I generally put one at or near where all paths cross the fence, at the forks of the paths inside the inclosure and by the sides of old stumps near the forks and by the sandy places. So much for the mode of using.

The signs and symptoms by which I am governed in using more or less, are simply these: Where my sheep become scarry and wild like, frequently running from place to place in the pasture, and then looking back when there was really nothing to get scared at, and when I go to the pasture and the sheep break and run

and I have to wait till they stop and look back, and then rattle the salt gourd, and stoop about as if I were putting salt on the ground, sometime before I can get them to come to me, and more particularly if I see dog tracks in the paths about my place in the morning after rains over night, without human tracks in company, then I know my sheep need more Strychnine. But if, on the other hand, my sheep feed close together, and deliberately from one side of the pasture to the other, and lie still in the shade when I go to salt them, until I approach very close, and then look at me, and jump up and run straight to me without running the other way first, then I am satisfied my sheep stand in no immediate need of Strychnine. Mr. Editor, would it not be well for the new "Greenville Agricultural Society," to appoint a committee to investigate, and report on this subject? the authority of such a body would have much more weight with the committee, than the mere say so of an anonymous correspondent.

AGRICOLA.

#### Crops.

A subscriber writes us from Fairfield district as below, his letter was dated 28th May, but came to hand too late for our June number:

"I may state to you that our prospects for a crop in this section of Fairfield is any thing else but flattering. It is now six weeks since we have had rain to do any good. We have very bad stands of cotton—very little of the late planting has come up yet. Some of the farmers did not get through planting cotton.—Many of them in the lower part of the district and in Lexington are waiting for rain to plant their cotton lands in corn. The wheat crop very short. Oats a perfect failure. I don't think the crops are as promising as they were in '45 the first of June.

J. M. G.

*For the Farmer and Planter.*

#### Crops in Marion and Horry.

MESSRS. EDITORS:—Allow me to address a few lines to you this evening, as it is the first rain I have had the pleasure of seeing here since I wrote to you last.—There has been rain partially through the surrounding country in the last ten days, but the nights are quite cold, and the growing crop presents quite an unhealthy appearance.

I traveled last week through Horry and Marion districts. I found the citizens of Horry very hospitable and kind; spent two days at Conwayboro', but one

day was quite rainy and I did not have an opportunity of seeing as much of the place as I desired. There are two distilleries of turpentine near the village and I saw several fine teams of mules on the road, hauling turpentine barrels to the village. It appears from what I could ascertain that there is not much cotton planted in that district. I saw a great many corn farms, but the turpentine business is the money making occupation.—I shall always remember the hospitality of the citizens of Conwayboro' during the little time I had the pleasure of staying there. In a few miles of Marion village I saw corn waist high and cotton 8 or 10 inches. After arriving at the village I was introduced to several gentlemen, very enterprising planters of that district with whom I had not the pleasure of being before acquainted. Some are now experimenting with guano, an account of which gave me more satisfaction than I had heretofore received from any source. From their statement and from what I see in the Farmer and Planter, Southern Agriculturist and other papers, my mouth begins to water for the fruits of the guano. I also spent four days with the Chief Magistrate of the State of South Carolina. His hospitable, kind, friendly and social disposition, will cause me ever to hold his name in grateful remembrance. He is a sugar planter in the rich lands of the west and seems not to be wanting in agricultural knowledge, from the culture of corn and cotton to sugar, &c. I heard a young gentleman say at Marion village that he had seen that day (the 26th inst.), a crop of corn waist high and cotton half a leg high, and he was certain it was the best crop in South Carolina. That was very fine for this season.

The average crop, both corn and cotton, is quite small for the season, and a great deal of cotton is not yet up, but I think it will soon be now if rain will do any good towards getting it up.

I am yours, very respectfully,

W. H. COCKFIELD.

Natural Grove S. C., May 31, 1853.

*For the Farmer and Planter.*

#### Agricultural Papers—Making Manure.

MESSRS. EDITORS:—Did you ever know an old bull broke from a field that he has once tasted. Didn't you know that some men could not live unless they drank out of the same spring their daddy did. Such thoughts came to my mind in trying to get subscribers to your paper—the invariable reply was, we wish no book farming



—I can beat all the book-farmers to —. I heard an old *bull* say the very words I have written, and immediately after in noticing a field adjoining his, remarked what a good thing it was to have as *neat* a planter next him that he could see how *he* managed. The man he spoke of is beyond all doubt one among the best planters I know of—and, would you believe it gentlemen, that *neat* and *good* planter takes the Farmer and Planter. Have you thought seriously, Messrs. Editors, with what ignorance, superstition, and notions handed down for generations, you have to contend with. I know men worth more than \$50,000, with grown sons and daughters that do not take any paper at all. They say it is that much money thrown away. You certainly cannot expect such men to take an agricultural paper.

I will give you my plan of making manure. Let the stable be made with very little fall and cover in such a manner that it will leak a good deal, and if the stable is kept well strawed, or covered with leaves, my word for it it will soon be up to the trough, and of the best quality. It must then be taken out and heaped in the barn yard, made flat on top and covered with straw to keep the sun from injuring it. I commend the plan of cultivating corn as laid down in the Farmer and Planter. In the *first* working of corn, plow *close* and as *deep* as possible with a bull tongue, and with a scraper or sweep *always* after, and if possible have your corn laid by, by the 10th of June, as working March corn after that time will surely injure it. If you think what I have said is worthy of a place in a paper that should be seen in every farmer's house, you are welcome to publish it.

PINY WOODS.

REMARKS.—We know many such "old bulls" as our correspondent speaks of. Let them alone, they are joined to their idols. The example of "neat planters" around them will open the eyes of their children if not their own. The day is approaching when the cultivator of the soil will be ashamed to say to his neighbor, "I take no agricultural paper—I can beat the book farmers, &c."

Your leaky stables might answer a good purpose for making manure, but your horses might say as the frogs said to the boys who were throwing stones into the pond, "It is fun for you but death to us." We could not recommend such stables for the comfort or health of horses. Better keep all dry whilst in the stable, it will become wet enough after penning, unless in such a drought as is affecting us now, (26th of June). In such case, make holes in

the manure with a stake and pour in water sufficient to produce fermentation and prevent "fire fanging."

For the Farmer and Planter.

#### Natural History of Cultivated Plants.

The dry weather has made us a little crusty coming in from the parched field, the sweat drops falling from our brow—thermometer at 90°. When snugly seated in the old arm chair, we took up our friend, the Farmer and Planter, and in its columns, to our astonishment, read that in Iowa and Wisconsin the male flowers of the pumpkin plant produce pumpkins with seed, though the seed is not of a "good sort for planting;" now this, if a fact, is something "new under the sun," and all knowledge of organic structure and functions of vegetable life, dwindles into airy nothings before this new light "learned Scotchman"

We begin to think that Editors as well as readers should know something of natural science. But we may be all in the wrong, we come into the world a little too soon, *progress* and *spirit rappings* have left us in the back-ground, and as Burns has said,

"These new light caddies  
So much wiser are  
Than their old daddies."

The rudimentary mammae on the chest of animals is ominous, and in this changeful past age the binamian old bachelor may have to call in the aid of the cradle to make up his establishment.

Now the grand secret imparted to Mr. Hawkes by the "learned Scotchman," is, to "be sure to select seed from the 'female species.'" We blush for the science of our north-western Editor. This brings us up to the remark of our friend "Civis," in the Southern Agriculturist, i. e. that farmers should be well educated. A simple knowledge of the sexual system of botany, would save this flourish of nonsense about male and female pumpkin seed. This is, Messrs Editors, another proof that the south should do her own thinking and writing, for we certainly can do as well as this same pumpkin seed story. We would advise the Editors of the Iowa and Wisconsin Farmer, to plant a gourd vine, or any of the natural order *cucurbitaceæ*, and save seed from the masculine flowers. Send us on some for we are fond of *queer things*.

Linnaeus placed the gourd, squash, melon, pumpkin and cucumber, in the class *monœcia*, order *monadelphia*. All plants in this class have on them male and female flowers; the male flowers,—*calix* five toothed, *carolla* five cleft, *filaments* three, *pis-*

*tils* and *pepo* none. The female flowers—*calix* five toothed, *carolla* five cleft, *pistil* trifid, *pepo* large, three to five celled. In the natural order *cucurbitaceæ* the flowers are *monœcious* or *diœcious*, rarely perfect; if the flowers should be perfect, they are then neither male nor female, consequently, seed from these do not come under male or "female species," alluded to.—The genus *cucurbita*, though small, is important. It contains about thirteen known species, principally indigenous to India, Africa, Persia and the Levant. On the discovery of America, they had around their habitation the calabash, or bottle gourd (*cucurbita lagenaria*) and the warted squash (*cucurbita verrucosa*). The inhabitants of Sarepta, on the Volga, brew a kind of beer from the water melon, also they obtain a marmalade, used as a substitute for treacle, or syrup.

As we feel disposed to keep the shade a little longer, we will venture to intrude on your columns, something of the natural history of our cultivated plants, beginning corn, *zea maize*, or Indian corn. Genus *zea*, species *maize*, class *monœcia*, order *triandria*. Masculine flower: *Calix* two flowered, two valved, awnless; *carolla* glume, awnless. popular name, tassel. Feminine flower: *calix* and *carolla*, two valved; style one; *filiform* pendulous; popular name, silk and shoot. Description—culm or flower stalk tall and robust, leaves broad and spreading. Masculine flowers (tassel) paniculate, terminal. feminine spadices beneath, axillary spathe many leaved (called shuck), convolute, fascicles of styles exerted pendulous.

Corn is in the natural order *graminaceæ*. There are probably two original species of this most interesting and important genus, *zea maize* and *zea curagua*, or Chili maize. The last is smaller in all its parts, with senated leaves. The genus is probably indigenous to tropical America, and was found in possession of the aborigines, on the discovery of this continent. Lewis is brought from the Mandan country on the Missouri, what may be another and earlier species, ripening earlier than any other suited to higher latitudes. M. Pursh calls it a variety resulting from climatic, and other external influences. In the economy of nature, seeds have been wonderfully cared for—none more so than in the genus now under consideration, its many leaved spathe protects it from many injuries of weather, and depredations from birds, &c., producing on well cultivated, rich soils almost in prodigal profusion, the staff of life to man and beast.



As next in importance to the southern agriculturist, we will give the natural history of the cotton plant. This plant, insignificant as it appears in its individual character, is most certainly the great modifier of civilized man. Each, then, is its importance. In Louisiana the cotton plant is called *Gossypium*. The name is supposed to be of Egyptian origin and is akin to *Cotnemesgia* or *Cotnemesgiar*.—This is most probably the origin of our word cotton; *Cotnemesgiar* being the Egyptian appellation for this plant, or rather for the wool produced from it.

Cotton, then, is in the Genus *Gossypium*, of which are three pretty well marked species, with many varieties, depending on soil, climate, and culture. Generic character as follows: *Calix* Perianth, double, the outer of one leaf, three cleft, largest inner of one leaf, cup shaped, with five blunt notches. *Corolla*, petals five, inversely heart shaped, flat spreading, attached to the stamens by their base, stamens and filaments numerous, connected in their lower part into a tube, separate and lax above, inserted into the corolla; anthesis kidney shaped; pistils, germen superior, roundish; style columnar, as long as the stamens; stigmas three or four, oblong, thickish. *Pericarp*, capsule roundish, pointed, with three or four cells and as many valves, with contrary partitions; seeds numerous, oval, fringed and enveloped in the long fibrous material called cotton. The essential character of the cotton is, calix double; the outer three cleft; capsule with three or four cells, seeds enveloped in wool called cotton; natural order, *malvaceæ* of Jussieu.

The cotton plant has been cultivated for economical purposes from the most remote antiquity, and thus for a long time has been subject to every influence the genius of man could bring to bear upon it, and consequently its species somewhat obscured and rendered difficult to define from the numerous resulting varieties brought about by causes now acting in our day; Linneus describes these three species in the Genus.

First—*Gossypium herbaceum*, supposed to be a native of the Levant, East Indies and Africa, as it is generally cultivated in those countries for the production of cotton used as clothing and other domestic purposes. This species is annual, with a bushy, branched and often zigzag stem—slightly downy or nearly smooth—herbaceous—leaves five lobed, the midrib bears one gland at its back, about half an inch from the stalk; flowers yellow, purple at

the base; capsule of the size of a walnut and enveloped in the calix like a hazle nut.

Second—*Gossypium barbadense*, leaves three lobed, entire with three glands beneath—supposed to be a native of Barbadoes—the *barbadense* in all its parts larger than the *herbareum*, with the lobes not so rounded and further marked by the three glands on the leaf.

Third—*Arboreum*, leaves palmate, five lobed—lobes lanceolate—stem shrubby; native of the East Indies, in sandy soils. This species is distinguished by its woody perennial stem, deep cut long lobed leaves, whose midrib leaves but one gland; the flowers are reddish.

Some botanists have many more species; Willdenow reckons ten, but there is great uncertainty, and the whole requires a thorough examination and revision.—The effects of cultivation, climate and soil, wants investigation. This we hope will be done by some botanist who has time for the scrutiny.

We must take our leave of the subject for the present, but if the weather continues dry, we may resume it to-morrow, and so on to the end of our cultivated plants, both field and garden. Our writing propensities are under meteoric influences, too hot, too cold, too wet or too dry, drives us to the quill to keep us from grumbling about the weather, or doing some other equally foolish thing. We of the clod ought to write as well as other folks; if we write non sense we have not much to fear, we are no candidate for office. Some of your readers will grumble no doubt when they see *lanceolate*, *acuminate*, *bidentate*, and such like outlandish tomfoolery of ABBEVILLE.

#### Poultry Cheaper than Pork.

MR. EDITOR:—Allow me to say a few words in your paper in behalf of that much neglected class of stock, that are usually found on a farmer's premises without a "location," if they have a name.—They are not thought worth enough to have quarters of their own, and so shift for themselves upon the first fence, tree, or out-house that affords rest to their feet. Even in these days of hen-fever, and of feathered stock imported from the farthest India and beyond, there are thousands of farmers who have no shelter for their fowls better than an apple tree or open shed. "The merciful man is merciful to his beast;" and it would be a good lesson for the improvident owner of these abused bibeds if he could exchange places with them for one December night, when the

thermometer stands below zero. The sty must have a place and the grunners be made comfortable, with a water-proof roof and a warm bed; for pork cannot be made to good advantage, without proper attention. Pork growing is a main reliance to pay the rent or the hired hands. Poultry is more plague than profit, and the less care bestowed on them, the better. We intercede for the "biddies," and beg for them a little of the attention that is lavished upon their more gross and less attractive neighbors. Give them a fair trial, and they will pay any farmer for his care much better than pigs, and will supply his table with greater luxuries and at cheaper rate. And to establish this position we will tell you a tale quite as literally as some others founded on fact: In the year 1850, my poultry yard cost me—

In stock.....	\$39 96
In food for fowls.....	39 81
Total.....	\$79 77
It produced in eggs.....	34 92
"    in manure.....	5 00
In stock at close of year.....	50 00
Total.....	\$89 92
Deduct expense.....	79 77

Profit.....\$10 15

It produced above this profit 91 chickens and fowls weighing 300 lbs. In other words, paid three cents a pound for all the poultry used in the family. When did a porker ever pay you for eating him. Even Charles Lamb's roast pig will have to knock under to the biddies.

In 1851 my yard cost me—

In stock.....	\$54 50
In food.....	65 00
Total.....	\$120 06
It produced 268 dozen eggs..	48 76
"    5 loads manure..	5 00
Stock on hand at the close ..	113 00
Total.....	\$166 76
Deduct.....	120 06
Profit.....	\$46 79

Besides this profit, it produced sixty-one fowls, weighing about 200 pounds. In other words, it gave 23 cents per pound for the privilege of being eaten. Was roast pig ever so gracious as this? We have tried pork growing for the same two years, and dealt by the sty as liberally as by the poultry yard, but with a very different result. The account stands thus:

Bought a pig May 13, 1850....	\$4 80
Food.....	15 02
Total.....	\$19 82
Deduct 8 loads of manure....	8 00
	\$11 82



He produced 206 lbs. of pork. Divide the cost by this, and it gives a little over five cents per pound, as the cost of production.

He must be a very skilful farmer who can produce pork for four of five cents a pound. Most of the pork made in New England costs 6 or 7 cents, the full market price; so that there is no advantage in producing it, except as it makes a valuable manure upon the farm. The farmer who can make pork for nothing, or, what is better, can make it pay him three times the market value for being eaten, is a man yet to be heard from. The best husbandry will probably never be able to accomplish this with any breed of pigs.

But the fowls will pay their own way, with proper care, and will give you a certain amount of poultry, without other cost than your own trouble in rearing them. Each hen well cared for, will yield a clear profit of at least one dollar, or, in other words will give you eight pounds of poultry for nothing.

We say then, especially to the boys, take care of the "hiddies." Let them have a warm place for a roost, a dry cellar, if possible, in winter, a variety of grain and a little animal food, clean water to drink, and lime in some shape for eggshells. Take care of the fowls and they will take care of you.—*Cor. Plow, Loom, and Anvil.*

**A Problem Solved.**—Much wonder has frequently been expressed why people who eat the most should seldom become portly. The following scientific article accounts satisfactorily for the fact: "Baron Liebig's discovery in animal physiology that the excessive labor of the jaws, in the mastication of food, wasted the beast's muscles, and retarded his progress, has been fully confirmed by practice; and instead of feeding, as formerly, upon hay or whole turnips thrown to them, our stock have their food 'minced' for them by different descriptions of cutting machines. Such is the advantage obtained by this mode of feeding, that lambs fed with the aid of a turnip cutter are worth more, at the end of a winter, by 8s. per head, than lambs fed upon whole turnips, the cost of using the machine being but 1s., and the cost of the machine itself not more than £5; thus effecting a saving of 70s. an acre upon the turnip crop.

#### Tricks of Animals.

In breaking or managing a horse, however intractable or stubborn his temper may be, preserve your own. Almost every fault he has arises from ignorance. Be pa-

tient with him, teach and coax him, and success in time is certain. There are tricks, however, which are the result of confirmed habit or viciousness; and these, sometimes, require a different treatment. A horse accustomed to starting and running away may be effectually cured by putting him to the top of his speed on such occasions, and running till pretty thoroughly exhausted.

A horse that had a trick of pulling his bridle and breaking it, was at last reduced to better habits by tying him tightly to a post driven on the bank of a deep stream, with his tail pointing to the water. He commenced pulling at the halter, which suddenly parted; over the bank he tumbled, and after a somersault or two, and floundering a while in the water, he was satisfied to remain at his post in future, and break no more bridles.

A ram has been cured of butting at every body, by placing an unresisting effigy in a similar position. The sudden assault on a wintry day, then, resulted in tumbling his ramship into a cold bath, which his improved manner took good care to avoid in future.

A sheep-killing dog has been made too much ashamed ever again to look a sheep in the face, by tying his leg to a stout ram on the brow of a hill, while the flock were quietly feeding at the bottom. The ram, being free and in haste to rejoin his friends, tumbled and thumped Master Tray so sadly over the stones and gullies, that he was quite satisfied to confine himself to cooked mutton thereafter. Man's reason was given him to control "the beasts of the field and birds of the air," by other means than by force. If he will bring this into play, he will have no difficulty in meeting and overcoming every emergency of perverse instinct or bad habit in the dumb things by his superior cunning.—*Exchange.*

**Science—Its Importance to the Farmer.**—If science takes hold of the plow handles and points it deeper into the earth, in order that the roots of plants may reach lower, for roots will grow deeper if you will only let them, and the deeper they go, the more robust the plant and the more profit to the farmer; if it accompanies us to the field and teaches us to put trees and plants at proper distances from each other, that they may have the benefit of fresh air, and thus bring new food in reach of their leaves—and how much of this sort of sustenance, they are able to take in—if it tells you of the causes of the fertility of mud banks and sea islands, and where you are to look for soil of the richest quality,

and how you should select with reference to that point—if it follows you into your barns and tells you how to treat your cattle—and what is the effect of certain treatment—to what diseases cattle are subject, and how they are to be prevented and cured—and if it goes with you into the fields, and instructs you in the nature of the insects that attack your crops, and as to the means of destroying them—I put it to you to say, whether if science can do all this, it is to be considered either as useless or unprofitable to the farmer?—*Prof. Johnston.*

**New Variety of Cotton.**—The New York United States Economist has received a very remarkable specimen of cotton, destined for the World's Fair. It was procured by one of the most enterprising and intelligent merchants of Texas from the Pino Indians. It is of a texture and strength of fibre superior to any ever before offered in New York. To the touch it has the feeling of silk, being destitute of the harsh feeling incident to cotton. It is of a long staple, and of a beautiful clear white color. The Economist understands that the enterprising discoverer has procured a quantity of the seed, and will enter extensively into the culture. It has been found under circumstances which lead to the hope that the degeneration of the quality usual upon these fine qualities will not be encountered in this case.

**Green-Houses in Winter.**—Very few persons appear to know the value of the sponge, in a green-house. I mean for the purpose of washing the leaves of all those plants with leaves broad enough to admit of it. I took the hint some five years ago, from a neighbor, the most successful plant grower I have ever had the good fortune to know. His plants were always so especially fresh and healthy, that I was for a long time puzzled to understand his secret, and he always declared he had no secret. But early one morning I caught him with a pail of clean water, slightly warm, by his side, sponging off the leaves of all his choice plants. I said to myself, "I have it." I did more; I went home and practiced it. My plants soon showed by their new aspect that I was not wrong in believing it the real secret of my neighbor's success. They began to look brighter, healthier, and grow and bloom better than my utmost care had ever been able to make them do before. And now strangers always ask me the same question when they see my plants, that I used to ask my neighbor. My answer is "use the sponge." The pores of the leaf get filled with fine dust, and the plant chokes. Syringing does not wholly remove it.—*The sponge does.*—*Horticulturist.*